



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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269408

Sent Via Electronic Mail and by Certified Mail Return Receipt REPLY TO THE ATTENTION OF:
SR-6J

February 1, 2006

Mr. Douglas A. McWilliams, Esq.
Squire, Sanders, & Dempsey, L.L.P
4900 Key Tower
127 Public Square
Cleveland, OH 44114-1304

**Re: Chemical Recovery Systems (CRS), Inc., Response to January 3, 2006 conference
Call Regarding the RI/FS Report, Revision 1, July 2005**

Dear Mr. McWilliams:

Enclosed are U.S. EPA's response comments to the January 3, 2006 conference call. EPA had anticipated providing you with these responses earlier; however, due to unforeseen circumstances this delay may have made it impractical for you to meet the impending February 6, 2006, RI/FS Report deliverable. If necessary, EPA would be amenable to a written request for an extension.

I am also providing teleconference call in information for the proposed follow-up technical conference call scheduled for **Friday, February 10, 2006, at 10:00 a.m. Eastern Standard Time; 9:00 a.m. CST. The call in telephone number is (866) 299-3188. When prompted enter the following conference code number: 3123531289 #, do not forget to press the # key following the conference code number.**

Based on our earlier conversations, this is may be the final technical teleconference needed to get the Draft Final RI/FS Report approved. If you have any questions or need additional information, please do not hesitate to ask.

Sincerely,

Gwendolyn S. Massenburg
Remedial Project Manager
U. S. EPA (SR-6J)
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enclosure

cc: Thomas Nash, ORC
Lawrence Antonelli, Ohio EPA

As requested, below are the agency's comments to the Jan. 3, 2006, conference call as it relates to the December 12, 2005, highlighted responses from Respondent's to EPA ; Chemical Recovery, Inc. RI/FS Report, Revision 1, July 2005. The comment #s refer to the comments made in the December 12, 2005 letter from the Respondents.

#1 (page 2 of 27), Respondents Response: While evidence indicating beaver activity was observed in April 2005 (characteristically gnawed tree trunk stumps), this activity did not appear to be recent given the lack of signs of beaver currently in the area. These signs would have included tracks, slides, newly felled trees and partially girdled and/or gnawed trees. Since none of these signs were observed, it is believed that any beaver activity at the site would have occurred more than one year ago. Additionally, the amount of habitat available for beavers is extremely limited. The only beaver habitat at the site is the small are (20' by 410', i.e., less than 0.2 acres) of riparian vegetation along the bank of the River. Thus, the beaver would be transient users of the site given the site's small size and surrounding industrial use. Furthermore, the proposed remedy will modify the existing river bank so that available beaver habitat will become essentially non-existent at the site. This because it will be necessary to remove the existing vegetation to stabilize the bank with rip-rap. This will be clarified in the text.

EPA's response: Whether beavers and other wildlife have visited the site in the recent past or the distant past may not be that important. The fact is that there is obvious evidence that beavers have visited the site, and the site remains as part of their range. I tend to agree that commercial/industrial, and even residential areas, are not meant to be or serve as wildlife habitats. We have forest preserves, nature preserves and other natural areas that are set aside and protected for that purpose. However, if wildlife happens to make even a temporary home on commercial/industrial properties, especially those that border on a river that acts as a water highway, the wildlife must be included and evaluated for potential impact in a risk assessment. This is so even if there is very little or no habitat remaining because it has been destroyed by physical or chemical activities at a site. Why is this important? It's important because it tells us about potential health impacts on these animals, but it also serves as an excellent indicator or gauge of potential health impacts to human receptors as well. We know, for example, that if certain indicator species are adversely impacted, as a result of exposures to a site, then there are high probabilities that humans will also be adversely impacted and vice versa. In addition, temporary or transient wildlife could be genetically altered because of exposures to carcinogenic and mutagenic chemicals, which could adversely affect other members of the population upstream or downstream because of genetic defect transmissions to next generations. Therefore, since beavers were and still are transients at the site, because of physical evidence and access to the site, this evidence should be included in the description of Terrestrial and Aquatic Wildlife for past, current, as well as future use of the site. A quantitative ecological risk assessments should be conducted for the beavers, as temporary residents or transients, for past, current and future use of the site.

proposed because the EDD that was provided to U.S. EPA in accordance with the AOC was compiled from all of the validated lab data. This lab data is identified in the data validation reports by SDGs. These SDG identifications are included in the EDD and the reader should be able to sort the data for the requested information from the U.S. EPA EDMAN system..

EPA's response: We are not asking for changes to be made to the data validation memoranda. Rather, we are asking for clarification or explanation of the reference made in the data validation memoranda so the correct file name(s) to which the document refers on the EDD is known.

#2, (page 5 of 27), Respondents response: The selection of the COPCs for the indoor air exposure pathways was not changed from the risk assessment (rev 0), which received no comment previously from the U.S. EPA indicating the method of COPC selection was acceptable. This approach may underestimate the total risk, however, the total risk calculated for this pathway already exceeds acceptable risk levels; therefore, inclusion of additional VOCs will not alter the conclusions of the risk assessment. However, for clarity, the exclusion of some potential COPCs for the indoor air pathway will be discussed in the Uncertainty Section.

EPA's response : We probably overlooked this point in Revision 0. It's an important point that must be considered. In spite of fact that total risk calculated for this pathway already exceeds acceptable risk levels, nevertheless, the correct and proper selection of indoor air COCs Compare all VOCs detected in soil and ground water and modeled to the indoor air pathway to screening levels provided in EPA's draft November 2002 guidance on evaluating the indoor air pathway. This is also important for purposes of determining correct cleanup levels for these COCs when performing back calculations or doing reverse modeling. Putting this in the Uncertainty Section will not result in proper and correct cleanup numbers.

#3, (page 5 and 6 of 27; Section 3.3.1), Respondents response: MCLs were used to screen COPCs because chemicals below MCLs are not required to be remediated. Even if chemicals such as chloroform, trans-1,2-dichloroethene, and thallium for shallow groundwater were considered COPCs and carried through the risk assessment, they are not required to be remediated if the detected concentrations of these chemicals are below the MCLs. Therefore, using MCL levels to screen COPCs does not change the overall risk assessment results> this discussion will be included in the Uncertainty Section

EPA's response to the MCL issue: Using MCL levels to screen for COCs does not change the overall risk assessment results—if that's what you're using as a screen. However, if you select COCs based on R9 PRGs ,which is what you should be doing, then your overall risk assessment results will be different and most probably more

conservative. EPA encourages the use of MCLs in the screening process but only for the purpose of determining which chemicals in fact exceed MCLs. This information is obviously important to know because MCLs are Federal ARARs. However, the use of MCLs for screening chemicals for risk assessment purposes will in all cases result in underestimated risks. This is so because of the cumulative risk for several or many chemicals. Please evaluate all chemicals detected above the Region 9 PRGs for tap water in the quantitative risk assessment.

#3, (page 5 and 6 of 27; Section 3.3.1), **Respondents response: Based on the site history, chromium VI is not expected at the site. Therefore, the PRG for chromium VI will not be used. This statement will be added to Section 3.3.1.**

EPA's response: Regarding the response about Cr(VI) site history. Irrespective of site history (which may be incomplete), any on-site chemical detected and exceeding PRG screening criteria must be included in the risk assessment. It's possible that some chemicals exceed PRG screens because they are Background COCs. If that is the case, then they must be identified as such, and still can be carried through the risk assessment. In the end, when its time to cleanup the site, Background COCs are left in place. However, its important to identify them and include them in the risk assessment because we want to know the Total Risk at the site. Based upon Total Risks, we then decide whether this Total Risk exceeds Superfund's acceptable risk range of 1×10^{-6} to 1×10^{-4} , or HI of 1.0. If it exceeds, the site-related (or site-generated) chemicals only are subject to cleanup, but not on-site Background COCs.

EPA's response: On chrome speciation. Regarding chrome speciation in the different media and chromium contamination in shallow ground water, ground water research suggests that Cr (VI) predominates under oxidizing (high redox) conditions (such as shallow aquifers), while Cr(III) predominates under more reducing conditions (such as in deeper ground water isolated from the atmosphere). So U.S. EPA's comment on using the PRG for Cr(VI) may be appropriate, unless the Respondents can substantiate that more reducing conditions are present in the aquifer in question. Note also that in surface water, Cr(VI) is predominant in the dissolved state. Bottom line, the Cr VI to III ratio is affected by the medium/ matrix, conditions, chrome speciation and stability of the speciation. Please justify that Cr (III) will be the predominant Cr species in the shallow ground water; otherwise, please use the PRG for Cr (VI). This justification should be added to the text of Section 3.3.1.

#3, (page 5 and 6 of 27; Section 3.3.1), **Respondents response:** Regarding the surface water screening criteria, it was agreed in a 28 April 2005 conference call between U.S. EPA and the CRS Group, that Ohio EPA's Surface Water Human Health Criteria would be used to screen COPCs in surface water. The water sample collected from the 12-inch clay pipe outfall adjacent

to the river in April 2005 was not included in the surface water grouping because it is not a surface water sample. The pathway was not quantitatively evaluated because of the difficulty in estimating the exposure. However, this pathway will be qualitatively evaluated in the revised RA.

Regarding the 12" outfall pipe.

EPA's response: The Respondents states that the collected sample is not a surface water sample. Well, if its not a surface water sample, then what is it? It's obviously falling onto the surface soil and surface sediment and creating small surface puddles. Its also stated that, the pathway was not quantitatively evaluated because of the difficulty in estimating the exposure. Use your imagination and best professional judgement in creating a plausible exposure. We will then decide whether its plausible or not, via a conference discussion, prior to documenting the response in the report.

#7, (page 7 of 27), Respondents response: Indoor air pathways were calculated for both soil and groundwater. See Part B and Part E of Appendix E (HHRA). Section 4.3.3 will be modified for clarity. Air impacts were assessed for the combined contributions of soil and groundwater volatiles. However, indoor air pathways were not combined with the outdoor air pathways because if an indoor commercial worker spends 8 hours indoors, the same slightly underestimate the total risk because this receptor could spend a small fraction of time outdoors. Therefore, a discussion will be added in the Uncertainty Section.

EPA's response: At most sites, an indoor/outdoor worker is evaluated, unless a separate worker population is engaged in outdoor activities versus indoor ones. This indoor/outdoor worker is evaluated for exposure to both particulate and volatile emissions from soil and indoor air (i.e., if the same worker can be exposed to both pathways). Research also indicates that around 40% of the indoor dust is from outdoors. At best, the exposure time should be pro-rated (x hours indoors, x hours outdoors) if the same population is exposed.

#8, (page 7 of 27). Respondents response: The reference for the oral absorption efficiencies for aluminum, copper and zinc were provided in Table 10. The references for the oral absorption efficiencies for bis(2-ethylhexyl)phthalate, chloroform, and trichloroethene were also included in Table 10. Although these three chemicals are organics, their OAF values are less than 50% (Bast & Borges, 1996); therefore, OAF of 1 was not used for these three chemicals. The STSC value was not provided by EPA during the April 2005 comments. The draft re-assessment values for TCE were not used because of the numerous criticisms on the methodologies of development of these toxicity values. Note also that RfCs are not available for cis,1,2-dichloroethene on IRIS. STSC informed Parsons that both papers for cis-1,2-dichloroethene and trans 1,2-dichloroethene were retired.

EPA's response: EPA would be reluctant to have Respondents calculate tox values for

TCE. Instead, it's recommended that the Respondents use EPA's Draft values, as well as California EPA (CAL-EPA) values, which are: Inhalation Slope Factor = $7.0\text{E}-03$ (mg/kg-d)⁻¹ and Inhalation RfC = $6.0\text{E}+02$ (ug/m³). Although, the Cal-EPA values are a few years old, the risk generated by these values can be compared to risk generated by EPA's Draft values. A discussion of the uncertainties in risk should be included in Uncertainty Section.

#1, (page 8 of 27), **Respondents response:** Table 11 has been modified to reflect all the quantitative and qualitative evaluation for all identified receptors performed for the site that were included in the calculations (Appendix E of the HHRA). The only exposure pathway that was not quantitatively evaluated in the revised risk assessment was the inhalation of groundwater volatilization to ambient air pathway for a trespasser scenario. The quantitative evaluation of this pathway will be included in the next revision. Text will be verified for consistency. Ohio Human Health Surface Water Criteria were agreed to be used to screen the COPCs for surface water. HA-6 and HA-7 were included in the quantitative evaluation under a trespasser scenario.

EPA's response: EPA doesn't exactly recall what was agreed upon on April 28, 2005 conference call, however, if Ohio EPA's Surface Water Human Health Criteria are more conservative than R9 PRGs and/or AWQCs, and the Respondents want to use them for human exposures, then they are free to do so. Otherwise, R9 PRGs or AWQCs should be used for that purpose.

#1, (page 8 of 27), **Regarding review of Table 11**

EPA's response: The Hypothetical Resident dermal exposure to surface soil or mixed soil (whichever is more contaminated) appears to be missing. Also, child+adult exposure should be performed.

#5, (page 9 of 27), **Respondents response:** Inhalation of VOCs during showering was not quantitatively evaluated. Section 4.2 will be revised to state that inhalation and dermal exposure resulting from indoor household uses of potable groundwater (e.g. showering) will be assumed equivalent to exposure resulting from ingestion of groundwater (U.S. EPA Region 4, www.epa.gov/region4/waste/ots/healthul.htm). This approach is based on the recommendation of the U.S. EPA (1991 Risk assessment forum). Information and calculations associated with the groundwater dermal contact during showering pathway will be deleted from the report.

The drinking water ingestion rate for the adult and chronic daily intake formula for the drinking water ingestion pathway in Table 13 will be modified to be consistent with the risk/hazard calculations included in Appendix E of the HHRA

EPA's response: It's unclear why the Respondents are citing an older reference (Risk

Assessment Forum, 1991), when newer guidance exist to evaluate the ground water pathway. Depending on the contaminant in question, the inhalation pathway can be higher than the ingestion pathway (benzene, for example is driven by the inhalation, not ingestion pathway). For dermal contact, the July 2004 U.S. EPA Dermal Guidance should be followed. Is there a site-specific reason why inhalation and dermal contact are not possible (example, industrial scenario, no showers on-site)? All pathways should be appropriately evaluated, based on the most recent EPA guidance. EPA recommends quantitatively evaluate VOCs for both dermal exposure and inhalation exposure during showering using a chemical specific scenario.

#9, (page 12 of 27), Respondents response: During the April 2005 meeting, our notes reflect that we agreed to provide a justification for a 90-day/year exposure frequency value for the construction worker. 90 days were assumed based upon a 4.5 month construction project (5 days/week for 18 weeks). The length of a construction project may vary from 3 month to 6 month. 4.5 month is the average length. The actual time for a construction worker's exposure to mixed soil could be significantly less than the project length as a construction project progresses to the next phase. This justification will be added in Table 13.

EPA's response: The use of 90 days for the construction worker is unacceptable. Although, it was determined that the 90 day scenario demonstrated risk. For exposure parameters, such as EF, EPA uses upper bound values. Therefore, 6 months i.e., 120 days should be used for the construction worker. In fact, the agency has observed construction activities throughout the entire year, even during winter months. Thus, exposure to mixed soils could occur for longer than 6 months. Therefore, the use of 120 days is not an overly conservative number. Furthermore, the use of a 90-day scenario, would set an unacceptable precedent for the agency.

#11, (page 13 of 27), Respondents response: The information in these tables has not changed from the risk assessment (rev0), which received no comment from the U.S. EPA, indicating that not using surrogate values for chemicals lacking toxicity values was acceptable. A discussion of the impact on the risk assessment for chemicals lacking toxicity values will be included in the uncertainty Section.

EPA's response: Whenever surrogate toxicity values are available e.g., for similar isomers, they should be applied. This is guidance policy in RAGS (U.S.EPA, 1989). All other chemicals, which lack toxicity values and do not have surrogate values, should be discussed in the Uncertainties Section

#14 : (page 13 of 27), Respondents response: Surface and subsurface soils were combined for a construction worker because a construction worker may be exposed to both surface and subsurface soil during a construction activity. Both aluminum and antimony concentrations in Table 16 under a construction worker scenario are the 95% UCL values from mixed soils. These EPC concentrations wee summarized on page 5 of 7 in Table 12 as

well. The EPC concentration for the mixed soil were only used for the construction scenario and not used for the other scenarios.

EPA's response: The agency accepts Respondents's comment. For construction workers mixed soil EPCs should be used since they are receptors that are the most likely to be exposed to mixed soil. However, it's also true that mixed soil exposures should also be used in residential exposures, when it's likely that mixed soils could or will be used as backfill material in residential yards and/or play areas.

#8, (page 15 of 27), Respondents response: The conclusion that "impact to ecological receptors is limited" was not solely based on comparison to background conditions. The conclusion was also based on the fact that maximum concentrations were compared to PECs and only a few detections at only one or two locations for only a few PAHs exceeded the PEC. If average concentrations are evaluated, the PEC exceedances are limited to even fewer PAHs; thus, we concluded that impact of ecological receptors would be limited. This will be clarified in the text. It is possible that some of the detected PAHs are originating from the site; however, given the urbanized nature of the surrounding area and the concentrations of PAHs detected elsewhere within the Black River watershed(refer to the discussion in Section 3.2 of the document), it is impossible to determine whether the detections are related to the site or are due to ambient conditions. Thus, further investigation into the origin of the PAHs is unwarranted since it has been assumed that the contaminants are potentially site-related and remedial action is necessary.

EPA's response: In review of attached Table 1, Summary of Soil Data (0-4 feet) for B[a]P the HQ reported is significantly high at 23.7. At the very least it must be considered as a Background COC. Therefore, the following statement "that impact to ecological receptors would be limited". And that "it's impossible to determine whether the detections are related to the site or are due to ambient conditions" is unacceptable. Respondents should attempt to determine whether PAHs are site-related or not, by performing statistical comparisons to local background. That is the only way to determine whether on-site concentrations are elevated compared to background concentrations.

#2, (Page 16 of 27), Respondents response: As indicated in previous response to comments, we agree that ecological effects may still occur even if the risks to human health are minimized; however, the statement regarding the protectiveness of human health measures for ecological receptors was made to assist the risk managers when considering the current and future planned use of the site, which is industrial, Please note that the statement in the executive summary and conclusion sections acknowledges that not all ecological urbanized environment, such measures would likely be protective for most of the ecological receptors that might inhabit such an area. In any case, the proposed remedy is protective of both human health and ecological receptors.

EPA's response: This statement is immediately stated after acknowledging that "...not all

ecological receptors may be protected by human health mitigation measures..." Perhaps the logic here is flawed; cleanup based on human risk assessment is not exactly related to ecological risk assessment. It's like comparing apples to oranges.

#3, (Page 17 of 27, Respondents response: As previously discussed, representative site specific background samples cannot be collected in the vicinity of the site due to past use of the site and surrounding areas. Thus, a summary of the studies and evaluations conducted by the Ohio EPA of the Black River watershed was provided in lieu of collecting site specific background data. The information collected by the Ohio EPA indicates that various contaminants such as metals, PAHs, and PCBs, are present throughout the watershed, thus, the designation of the entire watershed as an Area of Concern by the International Joint Commission on Boundary Waters. Although the detections of various COPECs in the East Branch of the Black River may be sight related, these detections cannot be distinguished from anthropogenic background conditions throughout the Black River Watershed. This will be clarified in the text.

EPA's response: Instead of conjecturing whether this statement maybe true or may not be true, the only way to prove this is by doing statistical comparisons (see previous comment on PAHs). Unless this is done, the agency does not have any certainty about the source of chemicals in the East Branch of the Black River. And if the agency does not have this certainty, then, the agency may presume that the source of contaminants, in whole or in part comes from the site, since the only identified player in the area is the CRS Group.